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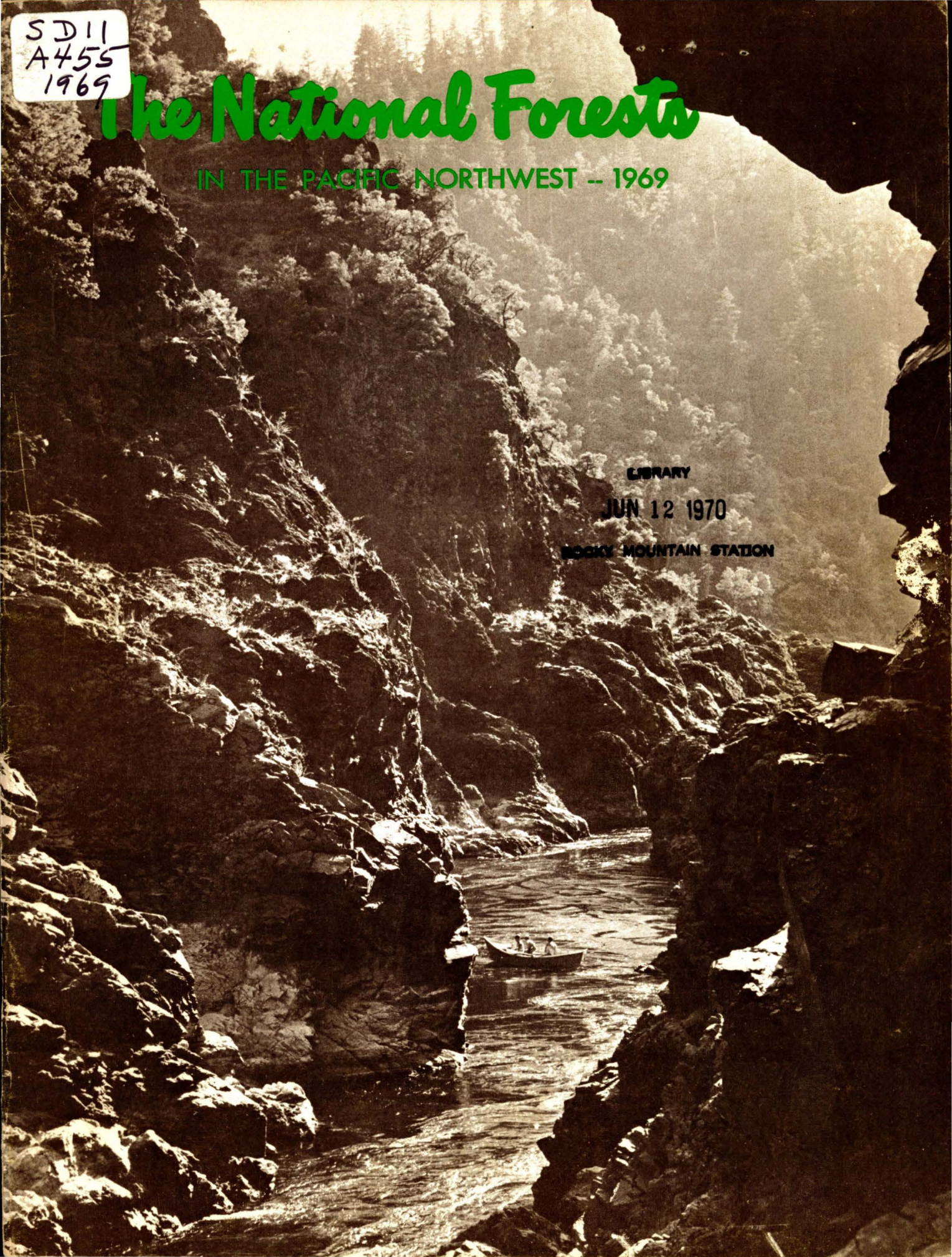
The National Forests

IN THE PACIFIC NORTHWEST -- 1969



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ROCKY MOUNTAIN STATION

Autumn sunburst on Dole Lakes, Wenatchee National Forest.

The Forest Service of the U. S. Department of Agriculture is dedicated to the principle of multiple use management of the Nation's forest resources for sustained yields of wood, water, forage, wildlife, and recreation. Through forestry research, cooperation with States and private forest owners, and management of the National Forests and National Grasslands, it strives — as directed by Congress — to provide increasingly greater service to a growing Nation.

Western Pasqueflower (Anemone occidentalis) after summer rain at Buck Creek Pass, Glacier Peak Wilderness.

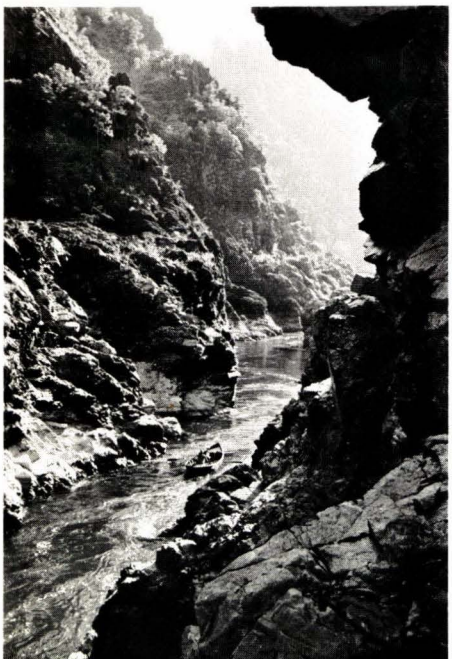
The National Forests

In the Pacific Northwest -- 1969

U.S. Department of Agriculture

Forest Service

Pacific Northwest Region (R-6)



Cover Photo

Mule Creek Canyon, Rogue National Wild and Scenic River, Siskiyou National Forest.

All photographs by the Forest Service, unless otherwise credited.

Along Pacific Crest National Scenic Trail, Mt. Hood National Forest.

Public Concern for Environment Welcomed

In 1969 the public found the environment. Environmental questions occupied dominant and widespread attention. Ecology and the mechanics of the ecosystem became matters of real concern to large numbers of people, and from every quarter the demand was made to satisfy environmental needs.

This environmental impact was felt in many ways, particularly on the National Forests of the Northwest. Here in this vast forested region the Forest Service is responsible for the environment on nearly one-quarter of the land. Obviously, therefore, when public concern for the environment became active, the interest in National Forest management and policy also became active. Indifference and disdain for public land matters changed to public concern and involvement. Although this development had some new dimensions requiring adjustments within the Forest Service, the situation is certainly welcomed.

In spite of the crash impacts of environmental matters, the Forest Service needs this awakened public concern to achieve proper land management goals. Regardless of a deep concern in the past within the Forest Service for many public land matters, progress has been slow simply because of lack of general support. With current militancy on the part of the public, a new day in the management of the public lands of the Northwest should be attainable.

For the first time the full values of these lands can and should be realized. Constructive, aggressive steps, triggered by the wide interest in environment, can bring the lands involved into full and best use. The wild land of the forest, with appropriate reservation of Wilderness or other special unique classification, can be used to enhance the welfare of the community, state, and nation, and at the same time preserve or even improve its inherent environmental quality.

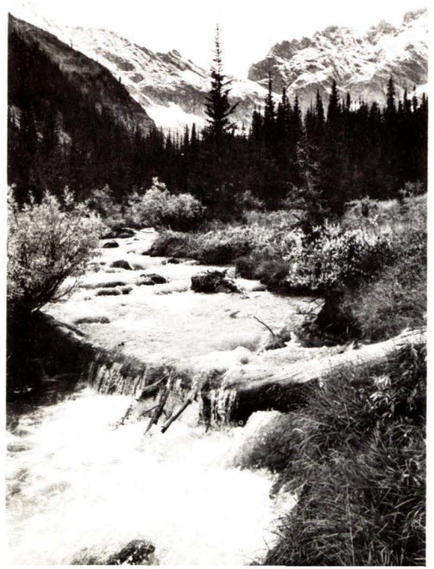
To achieve appropriate use and standards, the Forest Service will be faced with constant study and adjustment of practices. There's no question, however, based on experience, that the land can be used constructively in harmony with the environmental values established and cherished by the public.

As a sample of some of the things done in 1969, this report is presented.

Very sincerely yours,

Chas. A. Connaughton

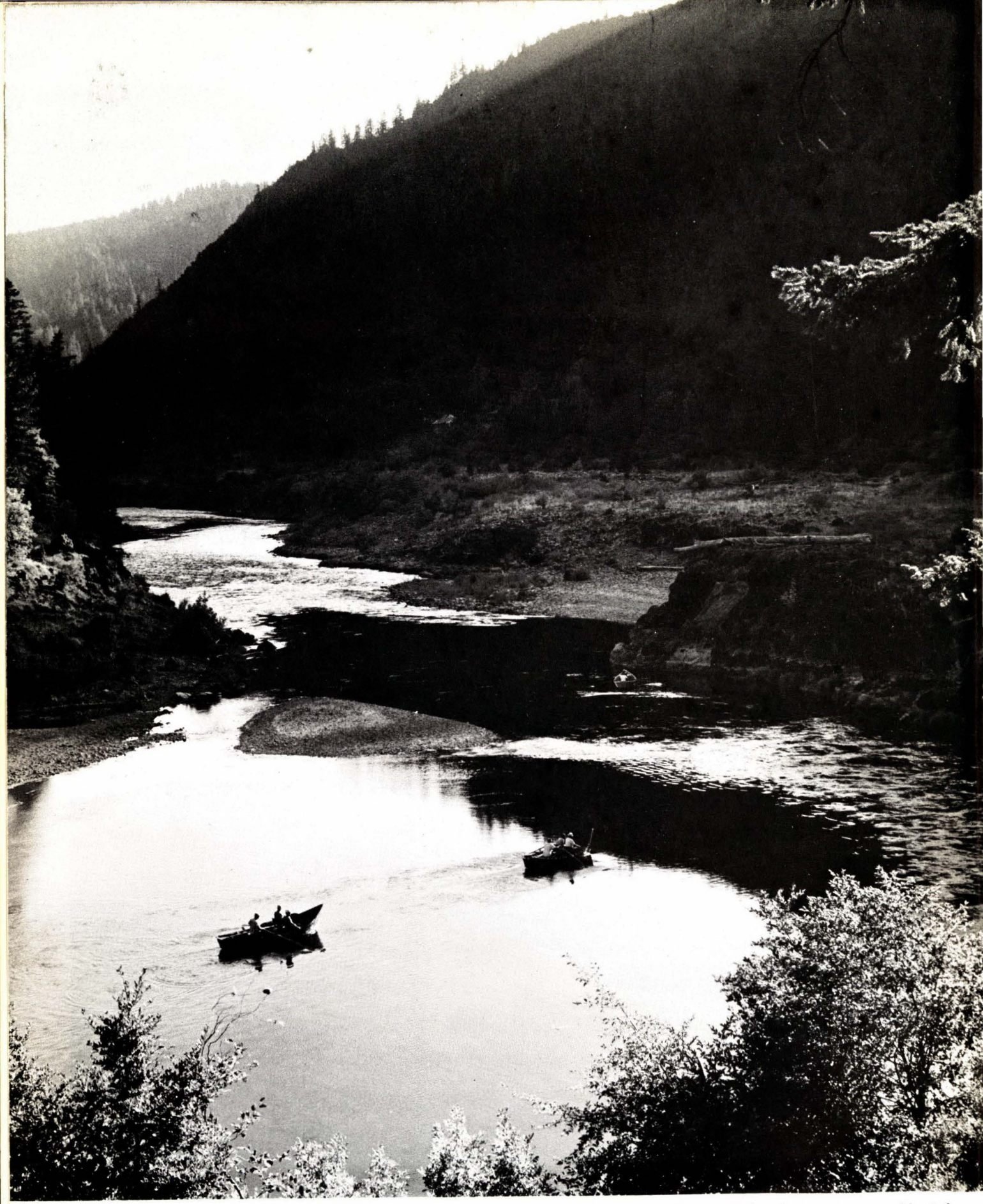
CHAS. A. CONNAUGHTON
Regional Forester



Headwaters of the Entiat, Glacier Peak Wilderness, Wenatchee National Forest.

Whitebark pine sentinel near Milham Pass, Wenatchee National Forest.

Regional Forester Connaughton discusses environmental issues with student delegation.



Rogue River boat travelers drift toward overnight destination at Marial.

Boatmen match skills against Rogue's whitewater fury at Blossom Bar.

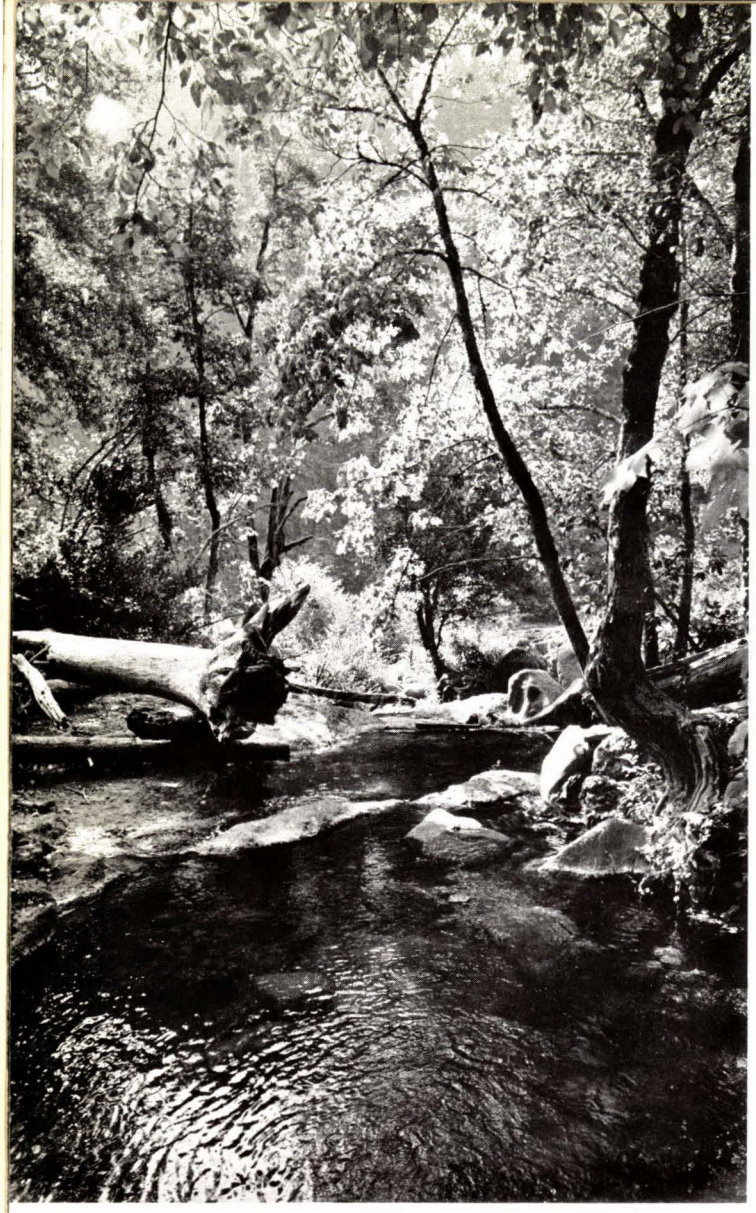
The Rogue -- A National Treasure

Though born in the high Cascades near Crater Lake, the Rogue River doesn't reach fulfillment until it carves through Oregon's coastal mountains on its way to the sea.

Here, Oregon's third largest river varies from millstream-smoothness, bounded by steep, timber-clad slopes, to a rushing spectacle of water in a hurry — threshing and crashing over boulders sculpted by the relentless force; churning through narrow defiles shaped through the aeons.

> *"It is hereby declared to be the policy of the United States that certain selected rivers of the Nation which, with their immediate environments, possess outstandingly remarkable scenic, recreational, geologic, fish and wildlife, historic, cultural, or other similar values, shall be preserved in free-flowing condition, and that they and their immediate environments shall be protected for the benefit and enjoyment of present and future generations."* (*Public Law 90-542*)

The Rogue Wild and Scenic River is one of eight rivers initially designated in the National Wild and Scenic River Act of 1968. The others are the Middle Fork of the Clearwater and the Middle Fork of the Salmon in Idaho; the Eleven



Blossom Bar Creek -- peaceful contrast to thundering rapids of nearby Rogue.

Rusty remnant from Rogue River gold quest.

Point, Missouri; the Feather, California; the Rio Grande, New Mexico; the Saint Croix, Minnesota and Wisconsin, and the Wolf, Wisconsin. Twenty-seven other rivers, including the Skagit in Washington, and the Illinois in Oregon, will be studied as potential additions to the system.

Eighty-four miles of the Rogue, from the mouth of the Applegate River downstream to the Lobster Creek bridge, were included under the Act as possessing the necessary qualities for being a National Wild and Scenic River. The upper 47 miles will be administered by the Bureau of Land Management, and the 37 miles from Marial to Lobster Creek are within the Siskiyou National Forest, and will be administered by the Forest Service.

> *"The agency charged with the administration of each component of the national wild and scenic rivers system . . . shall, within one year from the date of this Act, establish detailed boundaries therefor . . . and prepare a plan for necessary developments in connection with its administration."* (*PL 90-542*)

Plans for proposed management of the Wild and Scenic Rogue were submitted to Congress and the Federal Register on Oct. 2, 1969, in accordance with the law, and were to become effective 90 days after submission. The plans were developed by the BLM and Forest Service with the assistance of citizen steering committees, and after public meetings in Southwest Oregon. The plans cover 26,000 acres along the river, averaging approximately ¼ mile on each side — detailing the boundaries, classifications, and policies and directions for managing the river area.

Fawn in twilight walk to Rogue shore.

Hikers pause along Rogue River trail above Mule Creek Canyon.

Marial Lodge, rustic accommodations for Rogue travelers.

Angler in paradise. (Paradise Bar that is, Rogue National Wild and Scenic River.)

French Pete Creek -- Catalyst for Conflict

The year of 1969 ended a decade in which a concern for the environment became a compelling issue for millions of Americans. Some even questioned humanity's very ability to survive, unless drastic and effective actions were taken to counteract what they saw as grave threats to life-sustaining resources.

Manifestations of this concern were everywhere. Veteran Forest Service officers found themselves confronted by articulate, intelligent people, usually young in years, voicing a sincere concern for the welfare of natural resources. The Forest Service on many fronts was caught in a crossfire of conflict regarding uses of forest lands. In the Pacific Northwest, the issue of French Pete was a case in point.

French Pete, as best anyone can determine, was an obscure Basque who trailed his sheep through the timbered valley that years later was to bear his name. His name lives on as a catalyst for controversy between those who would leave the valley as it is, and those who favor limited road and recreational development and timber harvest.

Student protesters chant "Save French Pete".

Located some 60 miles east of Eugene, the 19,200-acre French Pete Creek drainage was once part of the Three Sisters Primitive Area in the Oregon Cascades. After long study and public

French Pete Creek drainage — what the argument is all about.

hearings, the Secretary of Agriculture in 1957 formally established the Three Sisters Wilderness, but omitted 53,000 acres of the former primitive area as having greater public value for multiple use management, than as Wilderness. French Pete Creek was in that 53,000 acres.

A decade later, road access reached the area and plans for limited timber harvest were announced by the Willamette National Forest. Individuals and groups protested the plans, saying that French Pete was one of the few remaining virgin timbered valleys in Western Oregon. A special citizens' committee reviewed the situation, and the majority of the group supported the Forest Service plans.

Secretary of Agriculture Clifford Hardin affirmed the plan for multiple use management, pointing out that similar benefits urged by various groups opposing the French Pete management plan were available in nearby areas. Four Oregon Cascades Wildernesses, for instance, have access points within easy driving range of Salem, Albany, and Eugene.

To provide additional time for public review, Secretary Hardin later directed that planned timber sales be delayed. Representatives of major points of view were invited to make additional constructive suggestions and comments on the management plan for the area. The outcome, at this writing, was still pending the final review.

New Approaches In Timber Harvest

Long-practiced methods of timber harvest cause much of the criticism from conservationists who don't like the appearance of logging clearcuts and road construction. They're asking, "isn't there a better way?" The answer is "yes" in this era of concern for the environment.

The "yes" is reflected by increased emphasis on the practice of landscape architecture on forest lands, coupled with more sophisticated logging techniques that cause less land disturbance, and a better job of wood utilization or disposal of logging and road construction debris.

One positive step was the assignment of a Forest Service specialist to give leadership in the field of aerial logging methods in Oregon, Washington and Alaska. Working from the Pacific Northwest Region's Division of State and Private Forestry, he will provide technical assistance to the states, private land owners, and timber operators, as well as to National Forests.

Primary work will involve three aerial logging methods: skyline, balloon, and helicopter. The systems have one value in common — they make timber harvest possible in rough terrain without extensive road-building and with better protection of soil and water and other forest resources.

Both balloon and helicopter logging are regarded still in the research and development stage, while skyline logging is being done extensively in the Pacific Northwest.

A preliminary inventory indicates that 13 percent of the commercial timber in National Forest areas available for harvest in Oregon and Washington would require removal with systems other than conventional highlead or tractor methods.

Part of the aerial logging specialist's job will be to train personnel in aerial logging techniques, with emphasis first on skyline logging. Particular care will be given to applying a team approach in planning and carrying out various new concepts of timber harvest and road building. The teams will intensively involve the professional skills of foresters, soils scientists, hydrologists, wildlife biologists, landscape architects, and others.

Forest Service aerial logging expert, Virgil Binkley, with diagram of skyline logging system.

Timber harvest unit with irregular shape resembles rock slide area and other natural openings in forest.

Protecting the Forest as Visual Resource

Not so many years ago, the major role of Forest Service landscape architects was to design campgrounds and other outdoor facilities. Today, they still do this, but their role has also enlarged immeasurably, to one of concern for the total forest outdoor environment as a visual resource.

As the largest single employer of landscape architects in the world, the Forest Service has given its visual resource management specialists the task of showing how timber harvest can be blended with aesthetics. The importance of this task is obvious, as the National Forests face the challenge of providing more and more timber raw materials to meet national housing and other needs. At the same time, environmental-minded recreationists are coming to the Forests in ever increasing numbers.

The Forest Service landscape architects rely on examples set by that master landscape architect, Mother Nature, in designing patterns of timber harvest in harmony with the environment.

Timber harvest clearcuts are being laid out to emulate Nature's "clearcuts" — meadows, avalanche scars, and other natural openings in the forest — compared with the older concept of logging units having rigid straight lines which jar the senses of the viewing public because of the unnatural visual patterns. At a distance, the irregular pattern of the clearcut tends to blend with the overall appearance of the landscape.

The free-form, natural appearing clearcut is just one technique in the practice of landscape

Larry Barnes (right) and Mt. Baker National Forest colleague, Robert DeWitz, photograph existing forest landscape as first step in designing aesthetically pleasing timber harvest units. Barnes is one of 22 landscape architects employed by Pacific Northwest Region, one of 145 landscape architects in Forest Service.

architecture on the forest. Landscape management zones, for instance, are divided into Foreground and Background. The foreground is the immediate area viewable from a road, stream, lake or trail, and the primary objective here is to maintain the appearance of a natural forest environment. Logging in the foreground is limited to partial timber removal, except for small area cuts to provide vistas from highways or trails.

R. Lawrence Barnes, Mt. Baker National Forest landscape architect, recently summed up how he feels about the job of Forest Service landscape architects.

"Our goal," said he, "should be to create and maintain a forest environment that satisfies the mental and physical aspects of the observer and user; that reflects the history of land use; that tells of present improved management; and that clearly shows there will be a future forest."

R. Lawrence Barnes, Forest Service landscape architect — checking newly completed foot path at Picture Lake in heavily used recreation area of Mt. Baker National Forest.

Debris and Smoke Problems Attacked

Forest landscape architects can design more attractive timber harvest patterns, and better logging methods are on the way, but what about the debris left in the wake of timber harvest and road construction?

Under a new Forest Service policy for the National Forests of the Pacific Northwest, disposal of road construction debris and logging slash will be more complete. The objective is to improve the appearance of logged areas and place them in greater harmony with the surrounding forest environment.

New regulations on disposal of timber harvest debris will also reduce the hazard of wildfires, which can cause extensive air pollution and do serious damage to water, wildlife, and other resources.

The policy directs more disposal of unsightly road construction slash and the piling of material in harvest units so that it can be burned when smoke can be dispersed without getting into populated areas. Disposal of all slash that gets into water courses is also a part of the new policy.

The logging directive ties in closely with a "smoke management" plan started last year in cooperation with other forest protection agencies, the forest industry, and the Oregon Department of Environmental Quality. The agreement coordinates the burning of slash under strict controls dependent upon atmospheric conditions. Western Oregon and Clark County in Southwest Washington were selected for the initial test of the slash smoke management system. When wind direction was away from designated population areas, few restrictions were imposed, but when wind direction was toward population areas, slash burning was severely curtailed.

A preliminary review indicated that the system generally worked well, and discussions were underway with Washington State agencies to develop a similar program in that state.

The debris reduction and smoke management programs were considered positive steps forward, until the day comes when maximum utilization of forest materials can be achieved. This will be the ultimate step in eliminating slash burning altogether.

Torchman ignites controlled slash burn — but not until conditions are deemed right for smoke dispersal.

Accelerated Road Program Launched

Pacific Northwest National Forests faced an additional challenge as Congress approved a program for construction of forest access roads at an accelerated rate to help assure future timber supplies for housing and other needs.

The program was part of a $35 million Forest Service-wide expenditure authorized by Congress for accelerated timber access road development during fiscal year 1970. Seventeen projects were approved for the Pacific Northwest Region at an estimated cost of $14.8 million. Three contracts were let, and the remaining 14 projects were planned for advertisement and award before July 1, 1970.

Basic objectives of the program are threefold: to maintain or increase wood production over the years ahead; to get more forest land under intensive management; and to make more timber available through thinning and salvage. Road planners emphasized safeguards to protect soil, water, fish, wildlife and aesthetic resources.

The accelerated forest road construction program is not to be confused with the National Forest Timber Conservation and Management Act considered by Congress in early 1970.

Road and Trail Progress Made

Apart from the new accelerated road access program, improvements valued at $78 million were made in 1969 on the Region's National Forest road and trail system. A total of 2,939 miles of road was constructed or reconstructed, mostly by timber sale purchasers as part of their contract. Twenty-five forest road bridges were constructed. Trail work involved 100 miles of construction or reconstruction, and 14 trail bridges were built.

Of the trail work, 24 miles of the construction was on the Pacific Crest National Scenic Trail, designated by Congress in 1968 as one of the two initial components in a National Trails System. The Crest Trail runs 2,350 miles, from Canada to Mexico, with approximately 40 percent of the route located in the Cascades of Oregon and Washington.

Forest engineers report that of the portion of the Crest Trail through Oregon and Washington, 243 miles are of adequate condition and on the ultimate location; 289 miles are properly located, but inadequate as to condition; 144 miles should be re-located, and 210 miles are virtually non-existent. Due to special emphasis on the accelerated forest road program, no new trail construction projects were to be initiated until after July 1, 1970.

Some Projects Deferred

Because of related efforts to hold down lumber prices and ease housing shortages, President Nixon specifically exempted the accelerated road program from a cutback on government construction to help curb inflation.

Deferred were projects involving nearly $1.5 million. Cutbacks in recreation area projects totalled $1.01 million, along with $335,200 for recreation road and trail work.

Federal fund cutbacks may also result in at least a year's delay on the scheduled 1973 completion of the new North Cross-State Highway across the North Cascades in Washington. Deferred were the last portion of rough grading 3.6 miles into the Granite Creek crossing; some major bridges on the westerly end; and a start on paving from the east side.

Engineers and recreation planners saw some benefit in the Cross-State Highway construction slowdown. The delay will provide additional time for multi-agency planning, involving the Bureau of Public Roads, the Washington State Highway Department, the National Park Service, and the Forest Service, to meet the public demands inevitable in the scenic highway's completion.

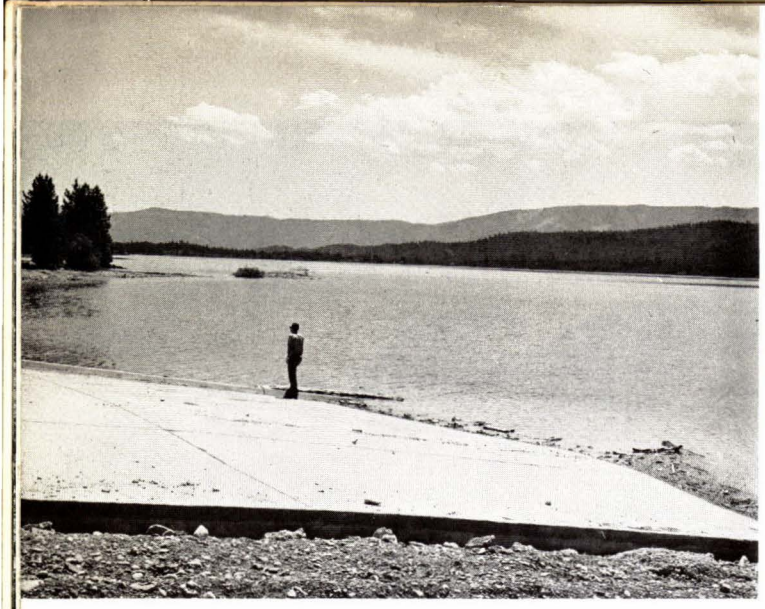
New stretch of Pacific Crest National Scenic Trail near Cutthroat Pass, Okanogan National Forest, looks mighty inviting to hikers and horsemen.

Accomplishment Despite Cutbacks

Although federal fund cutbacks caused a general slowdown in National Forest recreational development, several projects did move ahead in 1969.

At Waldo Lake, second largest natural lake in Oregon, the Willamette National Forest opened its new Shadow Bay Campground with 92 units. It is one of three campground-boating developments on the high Cascades Lake, reachable by a new highway which also opened in 1969. Islet Campground, with 60 units, opened in the fall of 1968, and North Waldo Campground's 63 units may be completed in 1970.

Also on the Willamette Forest, Echo Boating Site was opened on the northeast side of Cougar



New Wish Poosh Campground and boating site under construction on Cle Elum Reservoir, Wenatchee National Forest — may welcome users in 1971.

Reservoir, and the Mona Campground and Lookout Boating Site are expected to be finished in late 1970 on the Blue River Reservoir.

Construction progressed on several other facilities, including:

— The 20-unit Bluebell Lake Campground in the Oregon Dunes, Siuslaw National Forest, which may be opened in 1970.

— The Wish Poosh Campground and Boating Site on the Cle Elum Reservoir, Wenatchee National Forest, scheduled for opening in 1971.

— Jubilee Campground on Jubilee Lake, Umatilla National Forest, where part of the development (boat ramp, one comfort station, and 15 camping units) should be opened in the 1970 season. Additional comfort stations, camping and picnic units, and a trailer sanitation station will be completed there in 1971.

— Second stage contract was awarded for a water and sanitation system to counter a serious pollution threat to Diamond Lake, Umpqua National Forest. A third stage contract on the project was deferred because of federal fund cutbacks for construction.

Record Land Exchange

In the biggest such transaction in U.S. Forest Service history, key recreational values were secured in a 1969 land exchange between Pope & Talbot, Inc., and the Forest Service. Involved were 21,105 acres within the boundary of the Willamette National Forest near Oakridge, Oregon. Total appraised value of the land was near $24.5 million.

The Forest Service acquired 10,313 acres and the company 10,792 acres, reducing the checkerboard pattern of ownerships and simplifying land management for both the Forest Service and Pope & Talbot in the Middle Fork Willamette River watershed. Property lines between the National Forest and Pope and Talbot lands were reduced by 83 miles.

Parcels of land obtained by the Forest Service include portions along Hills Creek Reservoir with high recreation potential. The Forest Service gained 24.5 miles of waterfront in all, including 8.9 miles on the reservoir, and 8.6 miles on the Willamette River.

Seventy-eight acres of the Forest Service-acquired land have potential for campground development, and the exchange makes possible the future expansion of two existing campgrounds.

The lands are mostly timbered, with 17,054 acres of commercial timberland and 3,062 acres of young growth. Commercial timberland obtained by the Forest Service totaled 8,625 acres, and commercial timberland acquired by Pope and Talbot was 8,429 acres.

Women Crew Given Forest Survey Role

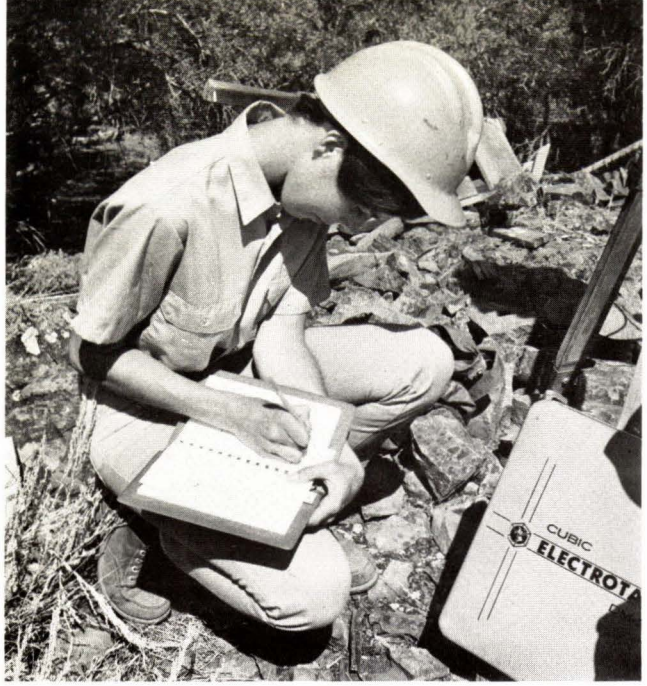
National Forests have been surveyed since the days of Gifford Pinchot — but probably never by surveyors like these.

It isn't the latest electronic equipment that makes them a topic of conversation for the loggers, cowboys, and other forest users they might meet. It isn't because they have to walk miles during a typical day in the vastness of a Western National Forest.

These surveyors are women. They're probably the only all-women survey crew in the country. Last summer, they ran surveys through the Fremont National Forest to establish the precise controls necessary for using aerial photographs in mapping, road location, and road design.

Next summer, the crew, probably reduced by one, will be working in the Umatilla and Wallowa-Whitman National Forests, and again on the Fremont.

Their supervisor, Cecil A. Navin, of the Surveys and Maps Branch, Region 6 Division of Engineering, says the productivity of the all-girl crew



Crew member Laurie Mayer records information from microwave reading. Laurie is senior forestry student at University of Washington, wants to work in wildlife management.

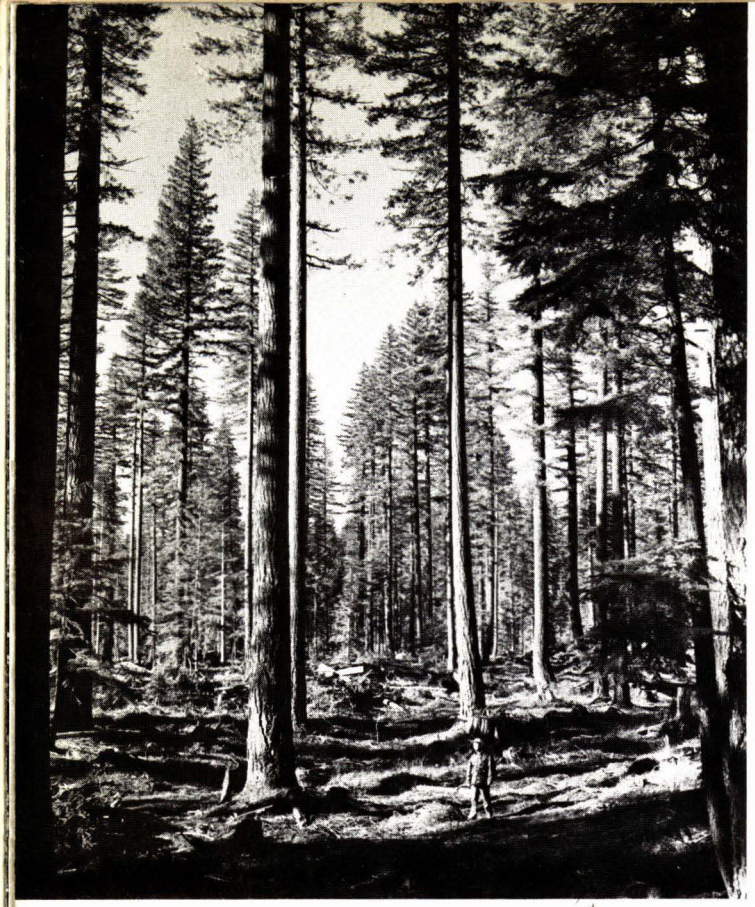
has been comparable to that of a male crew doing the same kind of work.

Navin credits the party chief as the key to success. She is Mrs. Gordon (Beulah) Jones, nicknamed B. J. Mrs. Jones is the first woman engineering graduate from the Oregon Technical Institute in more than 20 years, and is working toward qualification as a registered land surveyor — a group now comprised of men only.

Survey party chief B.J. (Mrs. Gordon) Jones operates a microwave unit to measure distances with extreme accuracy. While B.J. is in field with all-women crew, her husband serves as engineer on seagoing tug.

Packing all their equipment, totalling 100 pounds or more, survey party members head back to road after hot and dusty day in Fremont National Forest.

Photos by Wes Guderian, The Oregonian



Where terrain and other factors permit, shelterwood logging can be an advisable and aesthetically more pleasing alternative to harvesting Douglas-fir timber in clearcut patches. In shelterwood cutting, selected old growth trees are left as a seed source for natural reforestation, such as in this Gifford Pinchot National Forest area.

Timber Operations Reflect Slowdown

A downturn in home construction and lower prices for softwood lumber and plywood resulted in a noticeable reluctance of timber operators to buy or harvest National Forest timber in the Pacific Northwest during 1969.

Volumes of timber both sold and harvested were on the decline. (At year's end, 66 advertised sales totalling 228.3 million board feet of timber remained unsold.)

Total volume of the timber harvested declined from 5.31 billion board feet in 1968, to 4.89 billion board feet last year. Value of the harvest was greater, rising from $174.4 million in 1968, to $196.5 million in 1969.

Sale volume totalled 4.59 billion board feet, valued at $257.3 million, compared with 4.76 billion board feet, valued at $197.1 million, sold in 1968.

Re-inventories and progress toward more intensified utilization resulted in the Region's sustained yield allowable cut increasing 43 million board feet — from 4.347 billion board feet, to 4.388 billion board feet.

National Forest Timber Cut and Sold
Pacific Northwest Region 1968 - 1969

		Volume, Board Feet	Value
Harvested	1969	4,892,582,000	$196,552,873
	1968	5,313,429,000	$174,493,581
Sold	1969	4,597,367,000	$257,300,481
	1968	4,765,569,000	$197,143,781

In addition to timber included in the sustained-yield allowable cut calculations, the total volume advertised for sale includes considerable salvage timber and forest thinnings. These volumes are not part of the allowable cut. Consequently, timber harvest figures reported do not violate the sustained-yield principle.

Study Completed

A three-year study into the Douglas-fir region's timber supply situation was completed in mid-1969, and copies were distributed to all interested segments of the public. The exhaustive study examined the effects which three intensities of timber management, two rates of road construction, and five lengths of harvest rotation would have upon timber harvests and other values in the Douglas-fir country of Western Washington and Oregon, and Northwestern California.

Forest Lands Improved

Reforestation was accomplished on 59,839 acres of Pacific Northwest Region National Forest land during the 1968-69 season. Artificial seeding involved 9,531 acres, while 50,308 acres were planted with 18.4 million seedlings. Most of the young trees, 14.7 million, were produced at Forest Service nurseries at Carson, Washington; Bend, Oregon; Arcata, California, and Coeur d'Alene, Idaho. The remaining 3.7 million trees came from the State of Oregon's Elkton Nursery, and the L. T. (Mike) Webster Forest Nursery operated by the Washington State Department of Natural Resources.

Pre-commercial thinning was carried out on 49,501 acres, while brush competition was reduced on 23,620 acres, and 8,450 acres received site preparation for reforestation.

Progeny for a future forest — millions of Douglas-fir seedlings await lifting at Wind River Tree Nursery, Gifford Pinchot National Forest.

Insects, Disease Take Forest Toll

Forest killer insects and disease continued in 1969 to cause enormous damage through tree mortality and growth loss on Pacific Northwest timber lands.

Results of the 22nd annual forest insect aerial survey over all ownerships of forest lands in Oregon and Washington showed that bark beetles, most destructive of the timber killer insects, have infested an estimated one-half billion board feet on nearly one million acres.

Most of the losses caused by bark beetles, which kill by burrowing under the bark and girdling the trees, occurred east of the Cascade mountains. They included the fir engraver in true fir stands, and the mountain pine beetle in lodgepole pine, Western white pine, and young ponderosa pine stands. The Douglas-fir bark beetle killed more than 121 million board feet of Douglas-fir timber, with much of the mortality occurring in the Wind River and Lewis River drainages of the Gifford Pinchot National Forest.

High populations of Western hemlock looper subsided on the Mt. Baker National Forest, after causing severe defoliation in the upper Skagit River drainage. Results were encouraging in a test of pyrethrins against the Mt. Baker infestation, as search continued for an insecticide that causes no pollution problems, and is not harmful to warm blooded animals or fish. The pyrethrins are a botanical compound, with a very short life. A new formulation was applied by helicopter at the rate of one pound per acre. Populations of the defoliating hemlock looper were reduced more

Bark beetle larvae burrow cambium layer to sever life stream — and a tree dies.

than 60 percent, with no adverse effects on fish or wildlife.

A foliage disease, caused by an as yet unnamed fungus, was discovered on 20 ponderosa pine plantations on the Umpqua and Willamette National Forests. Regional pathologists, in cooperation with the Pacific Northwest Forest and Range Experiment Station, are intensively studying the disease to determine its potential to attack other pine species and spread to native stands. They are also studying what weather conditions are conducive to epidemics and what control methods are possible.

Dwarf mistletoe continued to cause the greatest growth loss to Pacific Northwest timber, in addition to considerable tree mortality. Silvicultural controls were carried out on some 25,000 acres of Oregon and Washington National Forest land in 1969.

Search is continuing for effective root rot controls, and efforts to develop blister rust resistant sugar and Western white pine look very favorable.

Fires Held to Low Acreage

Fires threatening timber and range resources protected by the Forest Service in Oregon and Washington were held last year to the lowest acreage burned figure since 1965. The total was 12,313 acres, burned by 1,571 fires during the 1969 season which had its periods of high fire danger.

July and August were unusually dry in both Oregon and Washington, with no rain at all in several climatic zones. By mid-September, however, substantial rain had brought an end to the dry period extending back to early July.

Most lightning activity occurred during June and September, and most lightning storms were accompanied by rain. This contributed to the lowest lightning-caused fire loss for the last 42 years of record keeping. Only 140 acres were burned due to lightning, compared with an annual average of 11,688 acres. Altogether, 809 fires were blamed on lightning, while 762 were man-caused.

Last year's total of 12,313 acres burned was about one-third of the 39,640 acres blackened in 1968, and about one-half of the 24,665 acres burned in 1967.

New Retardant For Air Tankers

Fire fighting aircraft will be dropping a new retardant on Pacific Northwest forest and range fires during the 1970 season. The new material is a syrupy liquid concentrate (LC for short) comprised mainly of phosphates. It takes the place of the older ammonium sulphate slurry.

Successful testing of the new retardant, a common agricultural liquid fertilizer, was conducted during the 1969 fire season by aerial tankers based at Lakeview, Oregon, and Wenatchee, Washington. Side-by-side drops of LC and slurry on going fires showed that LC was superior in holding and stopping fires.

LC is about the same consistency and appearance as water, while the older slurries resemble tomato catsup in appearance and viscosity. LC is mixed by merely adding four gallons of water to one gallon of concentrate, resulting in simpler mixing plant apparatus that can be handled readily by one man. Mixed LC retardant also costs about one-third less than mixed slurry.

Plans call for using up existing stocks of slurry, and converting aerial tanker bases to handle LC as rapidly as funds permit.

Aerial tankers, such as this B-17, will slug timber fires with new retardant.

County Funds Grow

Oregon and Washington counties with National Forest lands received a record $42.9 million in receipts from National Forest earnings in fiscal year 1969. The total was $11.5 million greater than the allocation paid to the counties for the previous year.

The payment represents 25 percent of receipts from all resources and uses of the National Forests, including timber harvest, grazing, minerals, recreation, power, and other land use.

The 1969 total, $42,945,079.91, was divided among 30 Oregon counties receiving $30,083,177.51, while 27 Washington counties received $12,861,902.40. Lane County in Oregon continued to receive the biggest share, $6.9 million, while Skamania County was high in Washington with $3.4 million.

Oregon counties since 1906 have received a total of approximately $255 million, while Washington counties have been allocated $107 million. Payments are proportioned according to National Forest acreage, with counties using the money for public roads and schools.

New Job Corps Opportunities

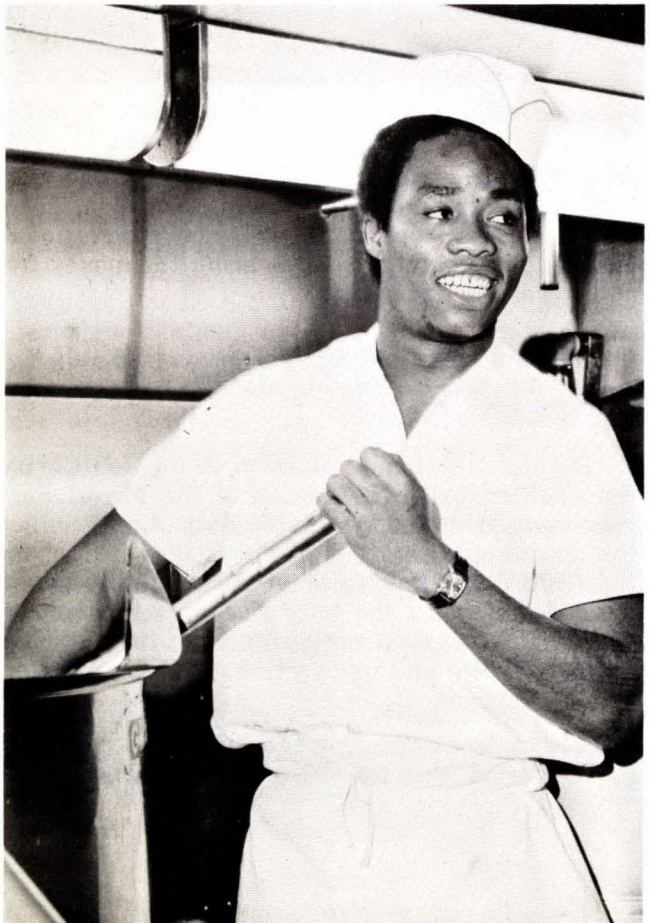
Despite a national reduction in the Job Corps, the Pacific Northwest Region of the Forest Service remained deeply involved in the Civilian Conservation Center Program. Cispus Center, on the Gifford Pinchot National Forest in Southwest Washington, was the only one of the Region's four centers phased out in July of 1969 during reorganization and redirection of the total Job Corps program.

A significant development during the reorganization period was the delegation of program re-

Charles Jackson, left, and Nick Bohr, graduates of Union carpentry program. Both employed by Portland construction firm.

Job Corps Grads Are 'Making' It

Ron Yarbrough, cook assistant. Now employed by Portland food service company, he urges Job Corps trainees to stay with program and "get as much education as you can".



Homer Howard, painter. He graduated from Union-sponsored training program; now employed by Portland firm.

sponsibility from the Office of Economic Opportunity to the Department of Labor. This change will provide a broad opportunity for placement of Corpsmen following the completion of a center program.

Two major changes in Center programs have been activated to insure that each Corpsman entering a Center will receive training in vocational skills, preparing him to enter the world of work at various levels above the pure labor category.

First, a series of Department of Labor-approved curriculums have been developed to cover various phases of the construction trades. Secondly, Union-sponsored and staffed training programs are now in operation at all three of the Region's Civilian Conservation Centers. The International Brotherhood of Carpenters and Joiners conducts training programs at Wolf Creek (Umpqua National Forest) and Timber Lake (Mt. Hood National Forest) Centers, and the Brotherhood of Painters, Decorators and Paperhangers train Corpsmen at Angell (Siuslaw National Forest), Timber Lake, and Wolf Creek.

The Angell Center, meanwhile, was being considered for expansion from a current capacity of 128 Corpsmen, to a capacity of 184, in a move toward greater efficiency and operating cost reduction. Timber Lake and Wolf Creek currently have capacities for 224 Corpsmen each.

Former Cispus Job Corps facility may become center for environmental education.

Cispus Proposed for New Education Role

The Job Corpsmen have departed, but the once-bustling Cispus Civilian Conservation Center may be destined for an important new role as a site for environmental education. Several possibilities were being considered for the $1 million installation to be used as a year-round center for outdoor studies.

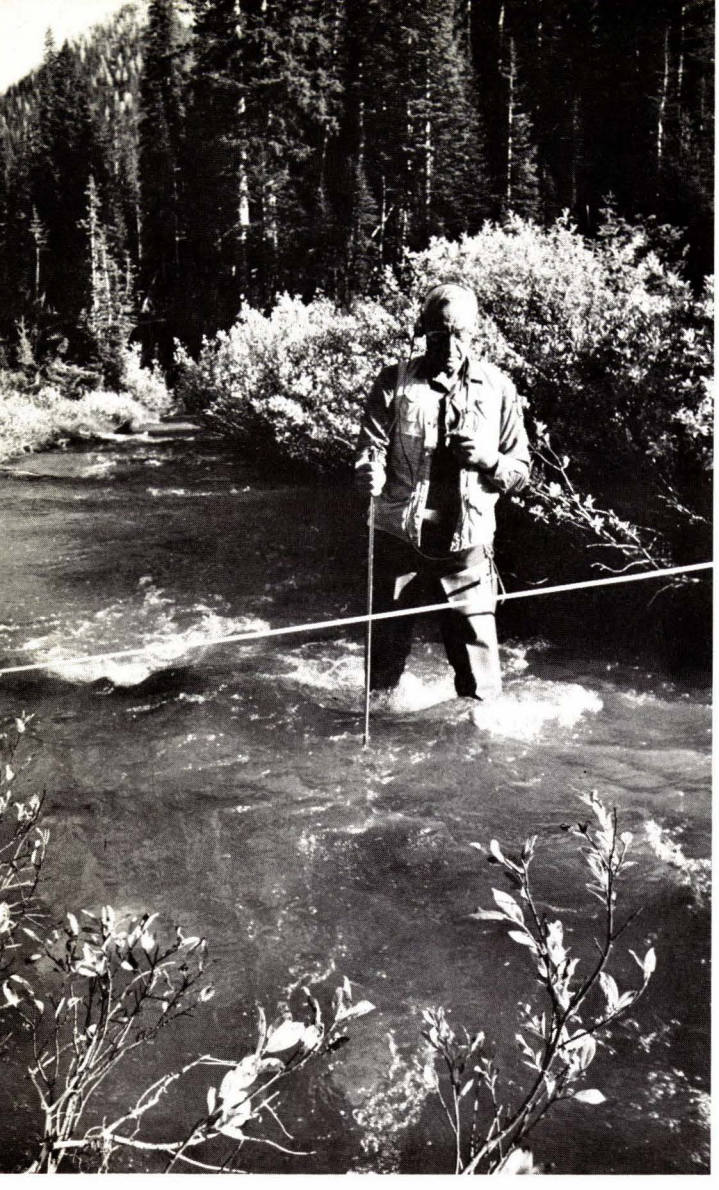
Phased out in mid-1969 as part of national cutbacks in the Job Corps program, the Cispus Center is located in the Gifford Pinchot National Forest, 12 miles southwest of Randle in the Cascade Mountains of eastern Lewis County.

Washington State Superintendent of Public Instruction, Louis Bruno, proposed that Cispus would become a Center where students from elementary to college levels would spend a designated time studying the environment. The Washington State Legislature, in special session to consider environmental and other matters, approved funds for operation of Cispus as an Environmental Education Center under an arrangement between the Forest Service and educational institutions.

'Closed' Watershed Concept Questioned

Does closing a watershed to the public guarantee pure water? Not necessarily, according to results of an intensive U.S. Public Health Service study of three Pacific Northwest watersheds. In fact, the study raised some serious questions on whether a "closed" watershed really does adequately protect water quality.

Principal objective of the study was to show the influence, if any, on water quality from widely differing human use levels on the three watersheds — the Cedar and Green River on the Snoqualmie National Forest, Washington, and the



Watershed technician Art Johnson measures flow velocity of Entiat River near birthplace of the Columbia tributary, high in Wenatchee National Forest.

Clackamas River on the Mt. Hood National Forest, Oregon. Only one of the watersheds, Cedar River which helps supply the City of Seattle, is closed completely to recreation use. The Green River, supplying the City of Tacoma, has a moderate amount of recreation use, while the Clackamas is one of the most heavily used watersheds in the entire Northwest. Timber harvest is permitted on all three watersheds.

Despite the differing pattern of use, study results clearly indicated no measurable influence on water quality from human use on any of the watersheds. Rather than people, the report concluded that large wild animal populations were probably the dominant factor contributing to fecal coliform bacterial contaminations detected.

The study also disclosed that entric pathogens (intestinal organisms capable of producing diseases) were found in waters of all three watersheds, even at some isolated sample points where no upstream human activity was known to occur. This finding tended to further substantiate the influence of animals on water quality.

Besides questioning the value of closing the watersheds to protect water quality, the Public Health Service Study report suggested that additional studies should be conducted to determine whether or not clarification or filtration of water prior to disinfection should be recommended for even "well protected" surface water supplies.

Although the need for further research was indicated, the study had important implications to the Forest Service, in view of the fact that more than 40 million National Forest acres in the United States are within watersheds supplying municipal water for more than 17 million persons.

Recreational Visits Almost Set Record

After a slight decline in 1968, the rate of recreational visitation to Pacific Northwest National Forests rose in 1969 to almost equal the all-time record. Visitor days totalled 28.02 million in 1969 compared with 27.3 million in 1968, and 1967's record figure of 28.1 million. A visitor day is a measure of recreation use equal to 12 person-hours.

Most visited of the National Forests were the Siuslaw, Mt. Hood, Deschutes, and Willamette in Oregon, and the Snoqualmie and Wenatchee in Washington. Camping, picnicking, hunting, fishing, boating, skiing, motorized travel and viewing of scenery, were among the most popular recreational pursuits.

Developed sites — campgrounds, resorts, winter sports areas, etc. — accounted for 11.3 million of the 28.02 million visitor day total.

Winter Enjoyment Increases

Skiing visits to the 31 National Forest winter sports sites edged up slightly during the 1968-69 snow season, despite road closures or poor driving conditions, much of which prevailed during the 1968 Christmas holidays. Skiing visits totalled 1.7 million, compared with 1.4 million in 1967-68, and 1.6 million in 1966-67.

Added developments for the 1969-70 ski season included a first aid and ski school building, and sewage treatment plant at Mission Ridge; a new day lodge and maintenance building addition at Snoqualmie Summit; an expanded daylodge at White Pass, all in the state of Washington; while in

Kayak racer misses slalom gate and capsizes in cold whitewater froth of Wenatchee River.

Recreational Uses of Water — Frozen and Otherwise

Gritty racer strides toward finish of cross country ski event at Anthony Lakes, Wallowa-Whitman National Forest.

Oregon, both Hoodoo Ski Bowl and Mt. Hood Meadows opened new intermediate chair lifts, and night lighting was added to the upper part of Multorpor Ski Bowl.

Ski touring, snowmobiling and other outdoor winter play activities continued to gain popularity on the National Forests.

Vandals Continue Rampage

Although they were greatly in the minority, an all-too-large share of National Forest visitors made themselves unwelcome in 1969. They were the vandals and the lawless who conducted their rampage in the National Forests of Oregon and Washington at an increasing pace.

Vandalism and thefts totalled $120,000 — more than double the previous year's figure and three

Dynamited garbage can in Siuslaw National Forest campground — Why?

times the damage reported in 1966, when the Pacific Northwest Region began an annual tabulation.

There were the usual cases of bullet-holed or stolen signs, traffic counters, picnic tables and garbage cans; broken fireplaces; toilets damaged; burglaries of summer homes; and acts actually endangering the lives of others, such as theft of directional signs and locks shot off gates. Thefts accounted for nearly as much dollar value as damage itself.

One of the worst incidents came late in the year south of Heppner, Oregon, when some "sport" shot up a new telemetering weather station, causing $2,000 in damages. The remote station had been in operation only three days.

And there were more cases of trees being chopped down, apparently for firewood or tent supports, at back country campsites. The monetary loss was negligible. But how can you place a price tag on the loss of gnarled whitebark pine and alpine fir that have withstood the elements for centuries?

Law Enforcement Gains

Apprehension of offenders continued to be a problem, but progress was reported in handling violations, once citations were issued. A streamlined procedure handled cases faster and made things more convenient, both for the Forest Service, and the accused to appear before a U.S. commissioner. Convictions increased from 44 percent of notices issued in 1968, to 73 percent in 1969.

Littering Crisis Attacked

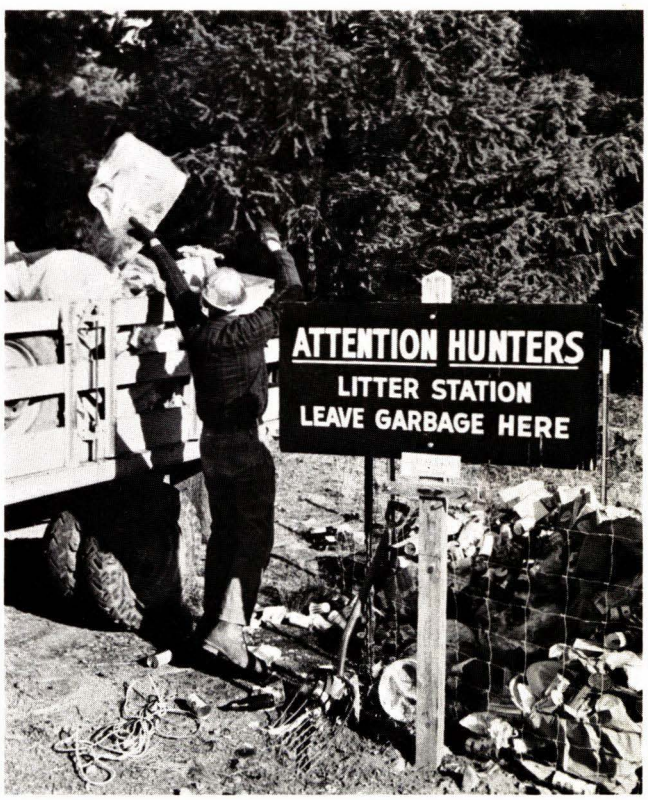
There was also progress on another problem — what to do about the veritable mountain of litter deposited on the National Forests.

A mass-media information campaign consisting of television tapes, radio spots, and printed material was directed at the public using the National Forests in Oregon and Washington. This was followed by a field campaign centering around a Pack-it-Out program, and a Hunter-Sack-the-Litter project. Thousands of plastic litter bags were made available to Forest users. The Pack-it-Out program featured a green and white litter bag designed for hikers and horsemen, while a larger yellow and black bag was used in the Hunter-Sack-the-Litter campaign. Both bags proved very popular and contributed much to the success of the anti-litter drive.

Solid public cooperation was also generated in attacking the litter problem. Numerous organized groups conducted successful litter cleanup operations on their own, and many Forest users seemed to be more aware of litter and were taking positive steps to reduce the blight on the landscape.

Notable cooperative litter cleanup campaigns included the effort of Seattle area Boy Scouts in the Snoqualmie National Forest, while organized clubs of the Pacific Northwest Four-Wheel Drive Association conducted a Four-Wheel Drive Clean-up Day. Litter collected in both projects was measured in tons.

Anti-littering publicity from various State, Federal, and private sources in Oregon and Washington helped the campaign immeasurably, and supplemented the Forest Service information program to make outdoor users more aware of the littering problem.



Forest worker loads litter at hunting season deposit station, Snoqualmie National Forest.

Recreational riders join fall roundup on Table Mountain, Wenatchee National Forest.

Grazing Trend Continues -- More Cattle, Fewer Sheep

Use of National Forest grazing lands during 1969 reflected a continuation of the trend toward more cattle and fewer sheep. Cattle numbers increased by 3,293 head, while sheep declined by 12,398 head, as compared with 1968.

In all, 203,460 sheep and cattle and their offspring grazed on the National Forests and the Crooked River National Grassland in 1969, compared with 212,571 animals in 1968. Grazing fees totaling $293,695 were paid by 1,100 ranchers, who used some 7.1 million acres of National Forest lands, along with more than 700,000 acres of associated private lands.

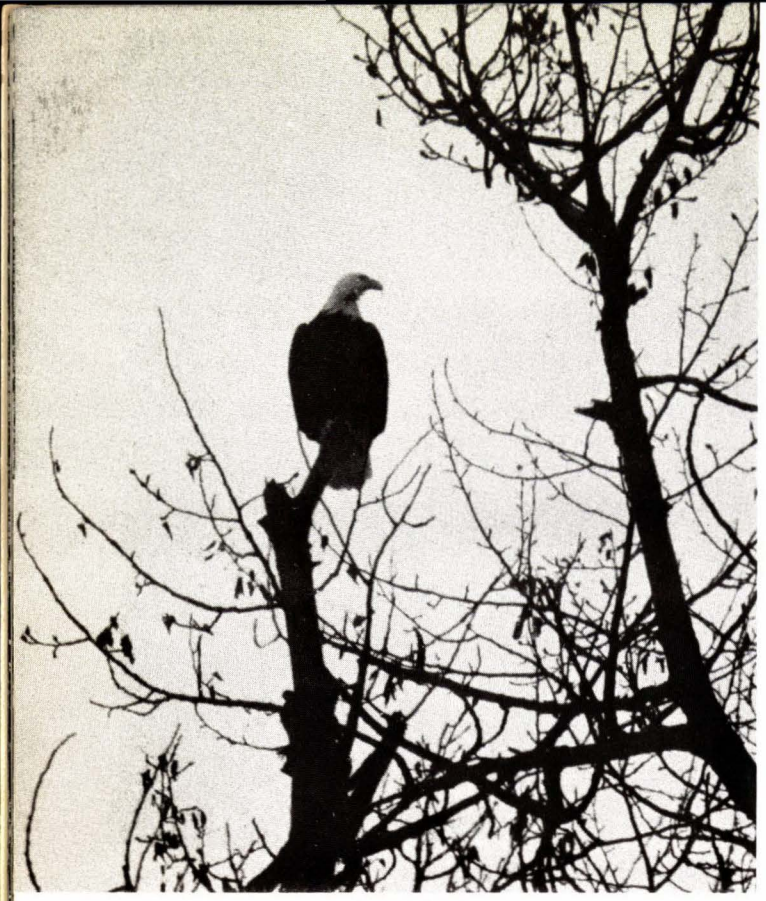
Herdsman and dogs watch over sheep band headed for summer grazing in Okanogan National Forest — a rarer sight in the high country as range sheep numbers decrease.

Stockmen and the Forest Service continued their cooperative efforts to improve rangelands, with permittees contributing $236,825 in funds and labor, while the Forest Service invested $441,281. Their accomplishments included 26,119 acres of range seeding; 8,905 acres treated for control of brush and noxious weeds; 171 acres of water spreading projects; 262 miles of fence construction; 82 cattle guards installed; 69 springs developed; 156 ponds and reservoirs constructed, and 23 miles of stock driveways improved.

Wildlife Suffers In Severe Winter

Heavy snow packs and prolonged periods of sub-zero weather caused big game populations to suffer during the severe Pacific Northwest winter of 1968-69. Deer numbers were drastically reduced on National Forest lands in most areas of the Region, and Roosevelt elk also sustained heavy winter losses.

The State of Washington Game Department said deer populations were the lowest since 1951



Bald eagle surveys elk herd for possible winter casualties. Even a National symbol must eat.

in the winter's aftermath, estimating that 150,000 deer were lost, mainly in Western and North Central Washington. Oregon also sustained heavy losses, and the State Game Commission did not issue antlerless deer permits for Western Oregon in 1969. Although harvest data had not been tallied at this writing, it was known that deer and elk harvest was less during the past hunting seasons because of the winter losses. Big game populations can recover quickly, however, and Washington Game officials estimated that good hunting could again be available in two years, provided winters are normal.

In cooperation with Oregon and Washington Game personnel, Forest Service wildlife biologists made aerial observations during the severe part of the winter to determine critical wintering areas. The information will be used to plan wildlife habitat improvement work which may help reduce winter game losses in future years.

Fishing and hunting are among the most popular of the many recreational uses of the National Forests. Last year, there were 2.7 million fisherman-days of use in the Pacific Northwest Region, while 2.1 million hunter-days were recorded.

To manage and protect the wildlife habitat resource, Forest Service fish and wildlife biol-

Wintering elk wait with expectation at Washington State Game Department feeding station in Oak Creek area, near Snoqualmie National Forest boundary.

ogists work closely with their forestry counterparts to avoid fish habitat damage from logging, to increase forage on key big game ranges, and even to leave snags in some instances for bird nesting and small mammal dens.

Habitat improvement work completed during 1969 included: 13,707 acres seeded or planted to forage species; forage plant release on 2,032 acres; prescribed burning on 26 acres; habitat protection fencing of 18,035 acres; 502 acres of permanent wildlife openings for forage production; and 125 wildlife water developments.

Fisheries habitat betterment work during the year included: 60 stream channel improvements; 1,130 rods of spawning bed improvements; 18 fish migration barriers removed; 333 rods of channel stabilization; and one acre of new fishing pond.

With ultimate role fulfilled, spawned out female (top) and male sockeye salmon await death on clean-washed gravel of Little Wenatchee River, Wenatchee National Forest. Offspring will spend year in nearby Lake Wenatchee before starting long journey to North Pacific.

Angler and friend try luck in Tieton River, Snoqualmie National Forest. A fish retriever, maybe?

Photo by Tom McAllister, Oregon Journal

Columbia Gorge District Ranger Joe Stockbridge, Mt. Hood National Forest, carries "Billy the Kid" to awaiting helicopter.

Mountain Goats in New Home

The lofty crags lining the Oregon side of the Columbia River Gorge have become home for the first mountain goat band to inhabit the Oregon Cascades. Four goats were captured last spring from Washington's resident herd on Timberwolf Mountain, east of White Pass in the Snoqualmie National Forest, and transplanted to Tanner Butte, Mt. Hood National Forest, to form the nucleous of the Oregon Cascades herd.

Working cooperatively on the project were personnel of the Oregon Game Commission, the Washington State Department of Game, and the Forest Service. Three nannies and a young male immediately dubbed "Billy the Kid" were caught in salt-baited snares by patient State Game and Forest Service men, and then trucked to Cascade Locks, Oregon. A helicopter lifted the goats 4,000 vertical feet to the towering pinnacles of their new home, where they can look down to the Columbia. The river has probably served over the centuries as the barrier preventing natural migration of the goats into Oregon's Cascades.

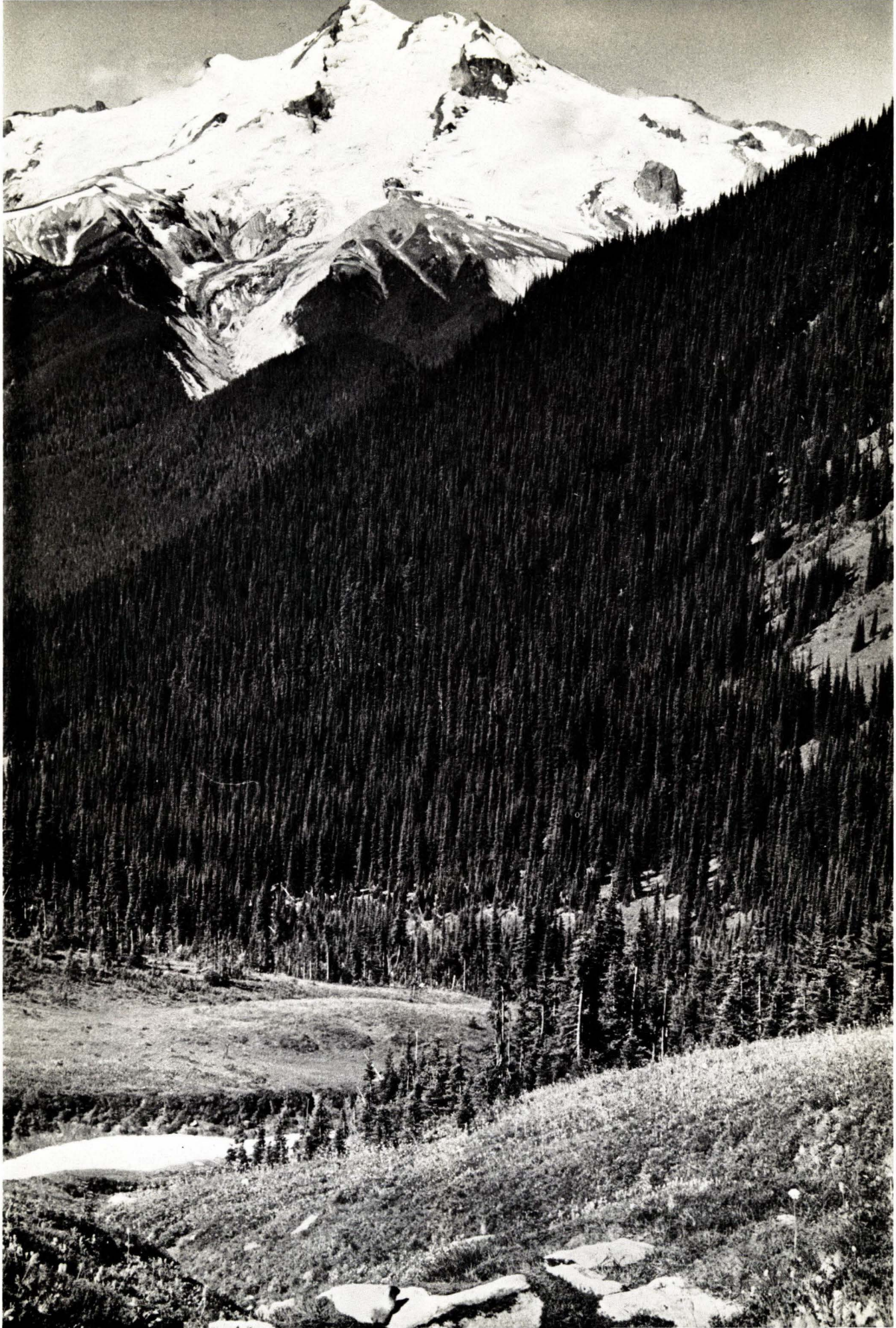
The four Columbia Gorge goats, which may be augmented by further transplanting this spring, are not the first to be released in Oregon. In 1950, a nucleous of five goats, also captured in Washington, was transplanted to the Eagle Cap Wilderness of the Wallowa-Whitman National Forest in Northeastern Oregon.

In other game transplanting operations, 12 antelope were released on the Crooked River National Grassland, Jefferson County, Oregon, while Game Commission efforts continued to gain wider distribution of Roosevelt elk in Western Oregon.

Leaping to new home on the range — one of 12 antelope released by Oregon Game Commission on Crooked River National Grassland of Ochoco National Forest.

Opposite Page

Near Buck Creek Pass, Glacier Peak Wilderness -- the hoary marmot (extreme bottom of page) may not be as impressive in size as some of his wildlife kin, but he rates his own special place in the wild kingdom on the National Forests.



Lynch Glacier, left, and Mt. Hinman, on Cascade crest, Snoqualmie National Forest.

U.S. Department of Agriculture

Forest Service

Pacific Northwest Region (R-6)

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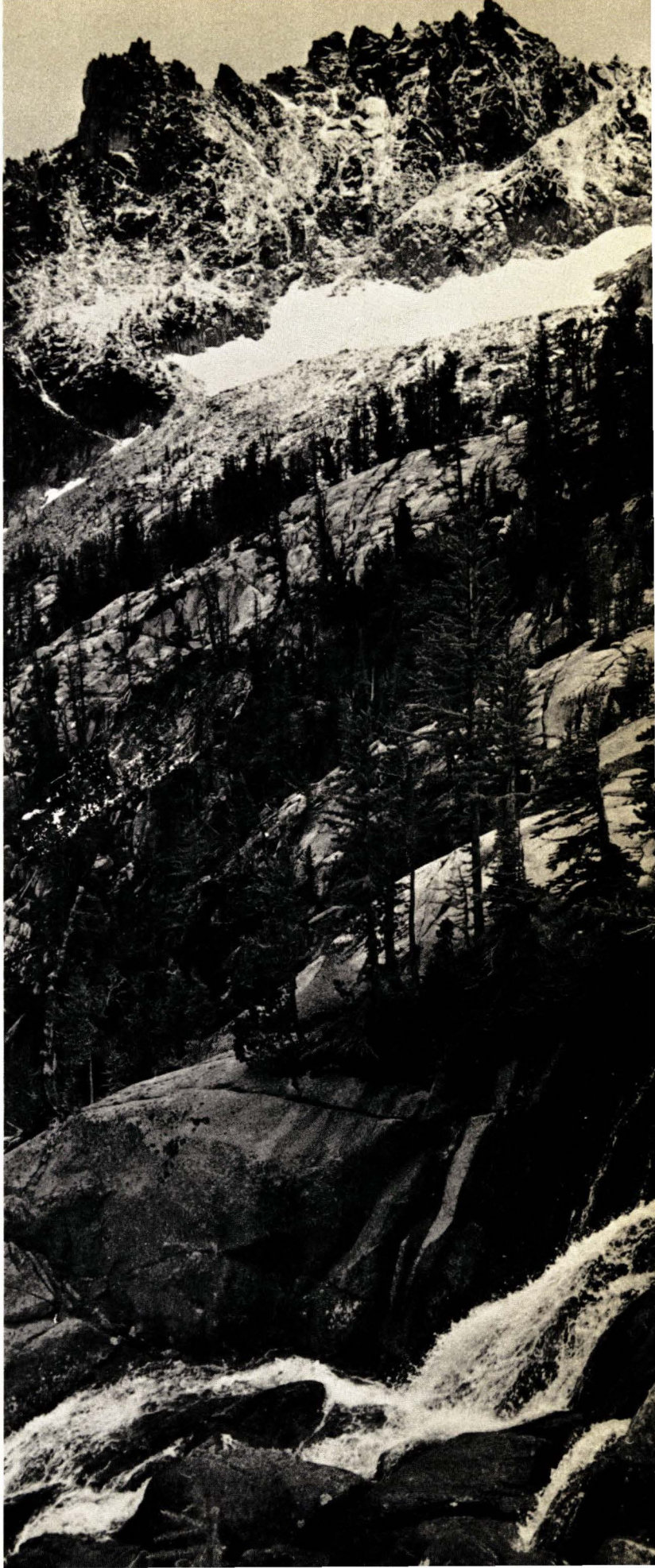
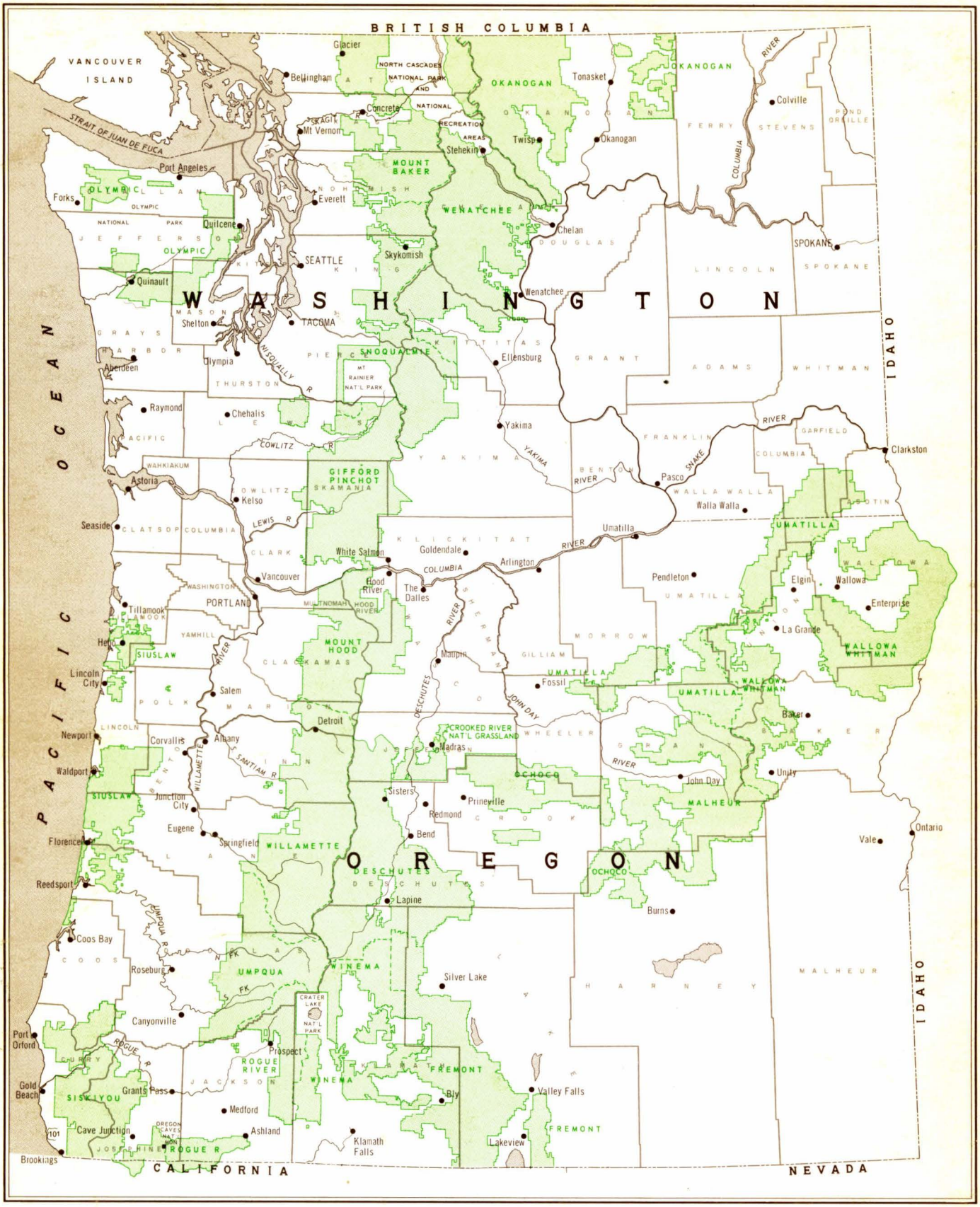


Wild water and wild country -- the Enchantments, Wenatchee National Forest.



U.S. DEPARTMENT OF AGRICULTURE
FOREST SERVICE
Edward P. Cliff, Chief

NATIONAL FORESTS OF THE PACIFIC NORTHWEST REGION

LEGEND

- STATE LINES
- COUNTY LINES
- NATIONAL FORESTS

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